IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1-21 and ADD new claims 22-31 in accordance with the following:

1. (Currently Amended) A system to estimate~~for estimating~~ a color temperature of a compressed video image and change~~changing~~ the color temperature of the compressed video image, the system comprising:

a color temperature estimation unit~~,~~ to~~which~~ receives a video image compressed using a block-based discrete cosine transformation (DCT), generates a discrete cosine (DC) video image corresponding to the compressed video image, and estimates the~~a~~ color temperature of the compressed video image using the DC video image;

a decoder~~, which~~ to decodes the compressed video image to generate an original video image; and

a color temperature change unit~~,~~ to~~which~~ determines the estimated color temperature of the compressed video image or a color temperature of the decoded original video image as an application color temperature according to~~depending on~~ whether the compressed video image is a moving video image, and changes the color temperature of the decoded original video image in accordance with the application color temperature and a color temperature preferred by a user.

2. (Currently Amended) The system of claim 1, wherein the color temperature estimation unit comprises:

a DC video image extraction section~~,~~ to~~which~~ extracts DC coefficients of each of a plurality of (DCT) blocks from the compressed video image, each of the DC coefficients representing an average value of pixel values of each of the respective DCT blocks of the compressed video image, defines the DC coefficients as average~~each~~ pixel values, and generates a DC video image composed of the average pixel values; and

a color temperature estimation section~~,~~ to~~which~~ estimates a color temperature of the entire compressed video image from the color temperature of the DC video image.

3. (Currently Amended) The system of claim 2, wherein~~, when the compressed video image is a still video image or an internally coded moving video image,~~ the DC coefficients of each of the DCT blocks are ~~values~~ obtained by multiplying DCT coefficients with respect to coordinates (0,0) of each of the DCT blocks by a predetermined constant in response to the compressed video image being a still video or an internally coded moving video image.

4. (Currently Amended) The system of claim 2, wherein~~, when the compressed video image is an interframe-coded moving video image,~~ the DC coefficients of each of the DCT blocks of a current frame are calculated as a sum of terms corresponding to~~for~~ four blocks of a previous frame in response to the compressed video image being an interframe-coded moving video image;~~,~~ and

wherein each of the terms is determined as a product of a ratio of an~~the~~ overlapping area of a DCT block whose DC coefficients of the current frame are to be extracted and DCT blocks of a previous frame to the area of the DCT blocks of the previous frame and DC coefficients of each DCT block of the previous frame.

5. (Currently Amended) The system of claim 1, wherein the color temperature change unit comprises:

an application color temperature determination section~~,~~ to~~which~~ determines the estimated color temperature of the compressed video image or the color temperature of the decoded video image as the~~an~~ application color temperature according to~~depending on~~ whether the compressed video image is a moving video image; and

a color temperature change section~~,~~ to~~which~~ receives the color temperature preferred by the user and changes the color temperature of the decoded video image in accordance with the application color temperature and the color temperature preferred by the user.

6. (Currently Amended) The system of claim 5, wherein~~, when the compressed video image is interframe-coded,~~ the application color temperature determination section compares a first color temperature difference between an estimated color temperature of the DC video image of a~~the~~ current frame and an estimated color temperature of the DC video image of a~~the~~ previous frame with a first predetermined critical value in response to the compressed video image being interframe coded;~~,~~ and ~~if the first color temperature difference is not larger than the first critical value, the application color temperature determination section~~

determines thean application color temperature of the current frame by adding a correction function to the application color temperature of the previous frame.

7. (Currently Amended) The system of claim 5, wherein~~, when the compressed video image is interframe-coded,~~ the application color temperature determination section compares a first color temperature difference between anthe estimated color temperature of the DC video image of a currentthe ~~corresponding~~ frame and anthe estimated color temperature of the DC video image of athe previous frame with a first predetermined critical value in response to the compressed video image being interframe coded;~~, and if the first color temperature difference is larger than the first critical value, the application color temperature determination section~~

receives the decoded current frame from the decoder, estimates thea color temperature from the decoded current frame, calculates a second color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the decoded current frame, and compares the second color temperature difference with a predetermined second critical value in response to the first color temperature difference being larger than the first critical value;~~,~~ and ~~if the second color temperature difference is not larger than the second critical value, the application color temperature determination section~~

determines the estimated color temperature of the DC video image of the current frame as thean application color temperature of the current frame in response to the second color temperature difference being less than the second critical value.

8. (Currently Amended) The system of claim 5, wherein~~, when the compressed video image is interframe-coded,~~ the application color temperature determination section compares a first color temperature difference between anthe estimated color temperature of the DC video image of athe current frame and anthe estimated color temperature of the DC video image of athe previous frame with a first predetermined critical value in response to the compressed video image being interframe coded;~~, and if the first color temperature difference is larger than the first critical value, the application color temperature determination section~~

receives the decoded current frame from the decoder, estimates thea color temperature from the decoded current frame, calculates a second color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the decoded current frame, and compares the second color temperature difference with a predetermined second critical value in response to the first color temperature

difference being larger than the first critical value;~~,~~ and ~~if the second color temperature difference is larger than the second critical value, the application color temperature determination section~~ determines the estimated color temperature of the DC video image of the decoded current frame as the~~an~~ application color temperature of the current frame in response to the second color temperature difference being larger than the second critical value.

9. (Currently Amended) The system ~~of any~~ of claims 6 ~~through 8~~, wherein the first color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the DC video image of the previous frame and the second color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the decoded current frame are differences between values obtained by multiplying inverse numbers of each color temperature by a predetermined coefficient.

10. (Currently Amended) The system ~~of any~~ of claims 6 ~~through 8~~, wherein the first and second critical values are approximately~~equal to~~ 200ºK.

11. (Currently Amended) A method of~~for~~ estimating a color temperature of a compressed video image and changing the color temperature of the compressed video image, the method comprising:

~~(a)~~ receiving a video image compressed using a block-based discrete cosine transformation (DCT), generating a discrete cosine (DC) video image corresponding to the compressed video image, and estimating the~~a~~ color temperature of the compressed video image using the DC video image;

~~(b)~~ decoding the compressed video image to generate an original video image; and

~~(c)~~ determining the estimated color temperature of the compressed video image or a color temperature of the decoded original video image as an application color temperature according to~~depending on~~ whether the compressed video image is a moving video image, and changing the color temperature of the decoded original video image in accordance with the application color temperature and a color temperature preferred by a user.

12. (Currently Amended) The method of claim 11, wherein the generating the DC video image and estimating the color temperature of the compressed video image using the DC video image~~step (a)~~ comprises:

~~(a1)~~ extracting DC coefficients of each of a plurality of DCT blocks from the compressed video image, each of the DC coefficients representing an average value of pixel values of each of the respective DCT blocks of the compressed video image, defining the DC coefficients as average~~each~~ pixel values, and generating a DC video image composed of the average pixel values; and

~~(a2)~~ estimating a color temperature of the entire compressed video image from the color temperature of the DC video image.

13. (Currently Amended) The method of claim 12, wherein the extracting and defining the DC coefficients and generating the DC video image~~step (a)~~ comprises:~~, when the compressed video image is a still video image or an internally coded moving video image,~~

obtaining the DC coefficients of each of the DCT blocks by multiplying DCT coefficients with respect to coordinates (0,0) of each of the DCT blocks by a predetermined constant in response to the compressed video image being a still video image or an internally coded moving video image;~~,~~

defining the DC coefficients of each of the DCT blocks as the average~~one~~ pixel values;~~,~~ and

generating the DC video image composed of the average pixel values.

14. (Currently Amended) The method of claim 12, wherein the extracting and defining the DC coefficients and generating the DC video image~~step (a)~~ comprises:~~, when the compressed video image is an interframe-coded moving video image,~~

calculating the DC coefficients of each of the DCT blocks of a current frame as a sum of terms corresponding to~~for~~ four blocks of a previous frame in response to the compressed video image being an interframe coded moving video image, wherein each of the terms is determined as a product of a ratio of an~~the~~ overlapping area of a DCT block whose DC coefficients of the current frame are to be extracted and DCT blocks of a previous frame to the area of the DCT blocks of the previous frame and DC coefficients of each DCT block of the previous frame;~~,~~

defining the DC coefficients as the average~~each~~ pixel values;~~,~~ and

generating the~~a~~ DC video image composed of the average pixel values.

15. (Currently Amended) The method of claim 11, wherein the determining the estimated color temperature of the compressed video image or the color temperature of the decoded original video image and changing the color temperature of the decoded video

imagestep (c) comprises:

(c1) determining the estimated color temperature of the compressed video image or the color temperature of the decoded original video image as thean application color temperature according todepending on whether the compressed video image is a moving video image; and

(c2) receiving the color temperature preferred by the user and changing the color temperature of the decoded original video image in accordance with the application color temperature and the color temperature preferred by the user.

16. (Currently Amended) The method of claim 15, wherein the determining the estimated color temperature of the compressed video image or the color temperature of the decoded original video image as the application color temperaturestep (c1) comprises:,

(c11) when the compressed video image is interframe-coded, comparing a first color temperature difference between an estimated color temperature of the DC video image of athe current frame and an estimated color temperature of the DC video image of athe previous frame with a first predetermined critical value in response to the compressed video image being interframe coded; and

(c12) if the first color temperature difference is not larger than the first critical value, determining thean application color temperature of the current frame by adding a correction function to the application color temperature of the previous frame in response to the first color temperature difference being smaller than the first critical value.

17. (Currently Amended) The method of claim 15, wherein the determining the estimated color temperature of the compressed video image or the color temperature of the decoded original video image as the application color temperaturestep (c1) comprises:

(c11) when the compressed video image is interframe-coded, comparing a first color temperature difference between anthe estimated color temperature of the DC video image of athe current frame and anthe estimated color temperature of the DC video image of athe previous frame with a first predetermined critical value in response to the compressed video image being interframe coded;

(c13) if the first color temperature difference is larger than the first critical value, receiving the decoded current frame from the decoder, estimating thea color temperature from the decoded current frame, calculating a second color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the decoded current frame, and comparing the second color temperature

difference with a predetermined second critical value in response to the first color temperature difference being larger than the first critical value; and

~~(c14) if the second color temperature difference is not larger than the second critical value,~~ determining the estimated color temperature of the DC video image of the current frame as the~~an~~ application color temperature of the current frame in response to the second color temperature difference being less than the second critical value.

18. (Currently Amended) The method of claim 15, wherein the determining the estimated color temperature of the compressed video image or the color temperature of the decoded original video image as the application color temperature~~step (c1)~~ comprises:

~~(c11) when the compressed video image is interframe-coded,~~ comparing a first color temperature difference between an~~the~~ estimated color temperature of the DC video image of a~~the~~ current frame and an~~the~~ estimated color temperature of the DC video image of a~~the~~ previous frame with a first predetermined critical value in response to the compressed video image being interframe coded;

~~(c13) if the first color temperature difference is larger than the first critical value,~~ receiving the decoded current frame from the decoder, estimating the~~a~~ color temperature from the decoded current frame, calculating a second color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the decoded current frame, and comparing the second color temperature difference with a predetermined second critical value in response to the first color temperature difference being larger than the first critical value; and

~~(c15) if the second color temperature difference is larger than the second critical value,~~ determining the estimated color temperature of the DC video image of the decoded current frame as the~~an~~ application color temperature of the current frame in response to the second color temperature difference being larger than the second critical value.

19. (Currently Amended) The method ~~of any~~ of claims 16 ~~through 18~~, wherein the first color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the DC video image of the previous frame and the second color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the decoded current frame are differences between values obtained by multiplying inverse numbers of each color temperature by a predetermined coefficient.

20. (Currently Amended) The method ~~of any~~ of claims 16 ~~through 18~~, wherein the first and second critical values are approximately ~~equal to~~ 200ºK.

21. (Currently Amended) A computer readable recording medium having recorded thereon the ~~a~~ method of ~~for~~ estimating and changing a color temperature of a compressed video image ~~of any~~ of claims 15 ~~11, 12, and 15~~.

22. (New) The system of claim 7, wherein the first color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the DC video image of the previous frame and the second color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the decoded current frame are differences between values obtained by multiplying inverse numbers of each color temperature by a predetermined coefficient.

23. (New) The system of claim 8, wherein the first color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the DC video image of the previous frame and the second color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the decoded current frame are differences between values obtained by multiplying inverse numbers of each color temperature by a predetermined coefficient.

24. (New) The system of claim 7, wherein the first and second critical values are approximately 200K.

25. (New) The system of claim 8, wherein the first and second critical values are approximately 200K.

26. (New) The method of claim 17, wherein the first color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the DC video image of the previous frame and the second color temperature difference between the estimated color temperature of the DC video image of the

current frame and the estimated color temperature of the decoded current frame are differences between values obtained by multiplying inverse numbers of each color temperature by a predetermined coefficient.

27. (New) The method of claim 18, wherein the first color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the DC video image of the previous frame and the second color temperature difference between the estimated color temperature of the DC video image of the current frame and the estimated color temperature of the decoded current frame are differences between values obtained by multiplying inverse numbers of each color temperature by a predetermined coefficient.

28. (New) The method of claim 17, wherein the first and second critical values are approximately 200K.

29. (New) The method of claim 18, wherein the first and second critical values are approximately 200K.

30. (New) A computer readable recording medium having recorded thereon the method of estimating and changing a color temperature of a compressed video image of claim 12.

31. (New) A computer readable recording medium having recorded thereon the method of estimating and changing a color temperature of a compressed video image of claim 15.